Shuffling

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July 21, 2025

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First 80 examples are of class "Yes" Remaining 20 examples are of class "No".

Serial Number	 Class
1	Yes
2	Yes
3	Yes
80	Yes
81	No
100	No

While using an 80-20 train-test split, we will get the distribution shown below

Train : All "Yes"

Test: All "No"

While using an 80-20 train-test split, we will get the distribution shown below



Will we learn anything useful in this scenario?

While using an 80-20 train-test split, we will get the distribution shown below



Will we learn anything useful in this scenario? No :(

While using an 80-20 train-test split, we will get the distribution shown below



Will we learn anything useful in this scenario? No :(

Solution: Shuffle before learning

Why shuffle for SGD?

We can fall into a loop!

SGD on point 1 : $\theta_0 + 0.2, \theta_1 - 0.2$

SGD on point 2 : $\theta_0 - 0.2, \theta_1 + 0.2$

Biased learning as point 2 follows point 1.